

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1, 17 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicant claims "the mobile units being in voice communication with the cell site and using an active communication channel of the wireless system. Although it can be implied that a "voice" call takes place, since we are dealing with a cellular system; however, one cannot discard the possibility of the communication being simply "signaling/control communication" taking place between the mobile station and base station", e.g., "synchronization signaling communication", "set up signaling communication" among others. Since, the examiner was not able to find, in the specification, where the communication was specifically a voice communication; the limitation will be treated as new matter and for examination purposes, it will be provisionally considered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-5, 7-18 have been considered but are moot in view of the new ground(s) of rejection. However, the examiner would like to clarify a few points.

3. a). Since the claims are not explicit about where exactly the gathering of signal strength data takes place, the examiner is giving a broad interpretation. The examiner is

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interpreting the limitation "gathering signal strength data of received uplink signals of subscriber mobile units as measured and collected by a cell site", as the signal strength data being measured and collected at the cell site and gathered at a different location/device/point in the system.

The same applies for "gathering geolocation data..." and "forming data pairs..."

Given the above, the MTE gathers the data as measured and collected by the base station.

b). the applicant has pointed out where the invention do not refer to a "drive test"; however, the examiner would like to point out where paragraph 11 of the published present application reads: "subscribers. However, specialized test units can be used as the mobile unit in the present invention..."; therefore, the art used for the rejections utilize "test units", therefore, the prior art of record still applies.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 7, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agostino et al. (Agostino, US006519452B1) in view of Mount et al. (Mount, US Patent No: 6,272,337).

Regarding claims 1, 17 and 18, Agostino teaches of a method and apparatus for collecting and processing uplink received signal level data and geolocation data over a wireless system (columns 2 and 3, lines 12-15, 64-67 and 1-7), comprising the steps of: gathering signal strength data of received uplink signals of identified subscriber mobile units as measured and collected by a cell site (columns 1, 2, 3, 4 and 8, lines 50-58, 14-19, 64-67, 1-9, and lines 34-48, respectively; where "as it has perceived" corresponds to measurements made by the BS, and "reverse link" and "short term reverse RSSI" corresponds to radio signal sent from the MS and measured by the BS; column 4, lines 20-24, where data corresponding to identified MS is time-stamped. Also, where the data is measured and collected at the base station, and later passed on to the MTE or another gathering device. Also, according to Agostino, the MTE corresponds to a base station, see column 8, lines 34-35); gathering geolocation data corresponding to mobile units (columns 3 and 9, lines 1-3 and 41-45, respectively, e.g., "location data"); forming data pairs by identifying the gathered geolocation data and the gathered signal strength corresponding to the common identified mobile units and by selecting the geolocation data and the measured signal strength data received within sufficiently closed temporal proximity to a reference time stamp to identify data from the same mobile unit (columns 3 and 4, lines 55-67 and 1-34); generating a set of data pairs correlating measured signal strength values to specific geographic locations throughout the wireless system (figure 8, where to generate the map, data pairs of measured signal strength and location information about the mobile units are required).

Although it might be implied, Agostino does not specifically teach of the mobile units being in voice communication with the cell site and using an active communications channel of the wireless system.

In related art concerning testing a mobile communications system, Mount teaches of the mobile units being in voice communication with the cell site and using an active communications channel of the wireless system (columns 2, 3 and 4, lines 52-59, 9-14 and 23-28, respectively; where as seen in figure 1A, mobile units 14 are in voice communication with "base transceiver stations" 28. It is well known in the art where an "active" channel is required for voice communication to take place between the "mobile unit" 14 and the "base transceiver stations" 28).

Regarding claim 2, Agostino and Mount teach all the limitations according to claim 1. Agostino further teaches where: the signal strength data is collected by measuring the signal strength of a signal received by a cell site, from a mobile wireless unit (columns 1, lines 38-40; where "as it has perceived" corresponds to measurements made by the BS).

Regarding claim 3, Agostino and Mount teach all the limitations of claim 1. In addition, Agostino teaches where the signal strength data is collected by measuring the signal strength of a signal received by a wireless mobile unit, from a cell site (column 8, lines 44-45, e.g. "Short Term Forward RSSI").

Regarding claim 7, Agostino and Mount teach all the limitations of claim 1. In addition, Agostino further teaches where the correlation includes matching the geolocation data with the signal strength data of a mobile unit based upon the receipt of

data corresponding to the same mobile unit (columns 1 and 4, lines 50-66 and 20-24, where the measurements are made in real time).

6. Claims 4-5, 8, 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agostino in view of Mount and further in view of Tayloe et al. (Tayloe, Patent No: 5,095,500).

Regarding claim 4, Agostino and Mount teach all the limitations of claim 1.

Agostino and Mount do not specifically teach where the geographic location data is determined by triangulation of the mobile unit with respect to a plurality of stationary cell site antennae.

In related art concerning cellular telephone diagnostic system, Tayloe teaches where the geographic location data is determined by triangulation of said mobile unit with respect to a plurality of stationary cell site antennae (column 8, lines 63-68).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Agostino's and Mount's with Tayloe's triangulation method for measuring location as one of various methods for measuring location available.

Regarding claim 5, Agostino and Tayloe teach all the limitations of claim 1. Tayloe further teaches where the geographic location data is determined with reference to a set of global positioning satellites (column 9, line 4).

Regarding claim 8, Agostino and Mount teach all the limitations of claim 1. Tayloe further teaches of analyzing the set of data pairs to evaluate the effective RF

propagation within the wireless system (column 6, lines 59-61; where the evaluated RF propagation leads to the necessary adjustments in the RF planning).

Regarding claim 11, Agostino and Mount teach all the limitations of claim 1. Tayloe further teaches of gathering drop call incident data from the system; and identifying the geolocation corresponding to the dropped call incidents (column 7, lines 49-59).

Regarding claim 12, Agostino, Mount and Tayloe teach all the limitations of claim 11. Tayloe further teaches of generating a set of data points correlating drop call incidents with geolocation of occurrence (column 7, lines 49-59; where the correlation provides the information to adjust the electromagnetic coverage of the system).

Regarding claim 13, Agostino, Mount and Tayloe teach all the limitations of claim 12. Tayloe further teaches of analyzing the drop call geolocation data set to determine an effective implementation for addressing dropped calls (column 7, lines 51-59).

Regarding claim 14, Agostino and Mount teach all the limitations of claim 1. Tayloe further teaches of gathering blocked call incident data from the system; and identifying the geolocation corresponding to said blocked call incidents (column 4, lines 48-50, column 5, lines 42-52 and column 8, lines 24-35).

Regarding claim 15, Agostino, Mount and Tayloe teach all the limitations of claim 14. In addition, Tayloe further teaches of generating a set of data points correlating blocked call incidents with geolocation of occurrence (column 4, lines 61-67).

Regarding claim 16, Agostino, Mount and Tayloe teach all the limitations of claim 15. In addition, Tayloe teaches of analyzing the blocked call geolocation data set to

determine an effective implementation for addressing blocked calls (column 8, lines 36-49 and column 5, lines 50-52).

7. Claims 9 -10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agostino in view of Mount, and further in view of Montoya (Montoya, Alexander John; US Patent No: 6,400,943).

Regarding claim 9, Agostino and Mount teach all the limitations of claim 1. Tayloe further teaches of identifying the cell site, which gathered each signal strength data measurement corresponding to each geolocation within the wireless system (column 2, lines 49-65 and figures 2, 3 and 4).

Montoya further teaches of determining the identified cell site likely to receive a signal from a mobile unit at each identified geolocation within the wireless system (column 5, lines 9-21; where the location code that identifies helps to decide what base station corresponds to the identified location).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Agostino's method of gathered location data and gathered strength data corresponding to the same mobil unit with Montoya's the identified cells in order to maintain accurate record of the data.

8. Claims 9 -10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agostino in view of Mount, and further in view of Montoya (Montoya, Alexander John; US Patent No: 6,400,943).

Regarding claim 10, Agostino, Mount and Montoya teach all the limitations of claim 9.

Montoya further teaches of redefining the projected distribution of likely server cell sites within the wireless system based upon the determination of identified likely cell sites (column 8 lines, 11-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Agostino's and Mount's method of gathered location data and gathered strength data corresponding to the same mobil unit with Montoya's the identified cells in order to maintain accurate record of the data.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 571-272-7885. The examiner can normally be reached on 6:00 a.m. - 1:30 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached at (571) 272-7503. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either the PAIR or Public PAIR. Status information for unpublished applications is available through the Private PAIR only. For more information about the pair system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.

/P. M. A./
Examiner, Art Unit 2618

/Duc Nguyen/
Supervisory Patent Examiner, Art Unit 2618